QUICK START PROGRAMMING

Setting Single code operation

Follow the steps below to program the K50 keypad for single code operation.

1) **Enter the six digit master code, as found inside the front cover of the manual, then press the # button.**

2) **Press # button again.**

3) **Enter your four to eight digit user code then press the # button.**

4) **Press # button again.**

The LED's should now be off and the keypad is ready to use.

Deleting a Single code

Follow the steps below to delete a single code from the K50 keypad.

1) **Enter the six digit master code, as found inside the front cover of the manual, then press the # button.**

2) **Press 9 followed by the # button.**

3) **Enter your four to eight digit user code to delete then press the # button.**

4) **Press # button again.**

5) **Press * button**

The LED's should now be off and the keypad is ready to use.

For further programming options see over for the Programming Summary Table or for full programming instructions view the programming section starting on page 11 of manual.

Enter Master code here for quick reference.

Factory set master code :						
User set master code:						

RAYTEL SECURITY SYSTEMS LIMITED

Access Control Keypad
Table of Users and Keypad Parameters

Installation Company: ………………………..………………. Tel: ……………………….…………… Date: ….…………….…...…

Name of On-Site Programmer(s): ………………………………………..……………………………………………….……………………......

Master Code FMC: ……………………..……….…….……………...….…..…. UMC ***(If Set)***: …………..…..……..….…………..….……….

Unit Type: ………..…..………..…………………….….. Lock Time: ……..……..…Seconds Serial Number: ……………………....…..……

Time Zone Periods: TZ1 from to

(If Set) TZ2 from to TZ3 from to

TZ4 from to TZ5 from to

Latch Mode Time: from to Service Mode Time: from to

No.	NAME	CODE	TIME ZONE	LATCH CODE	SERVICE CODE	DATE
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
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50						

We recommend this page should be filled in and regularly updated and kept in a safe and secure location by the person responsible for the upkeep of the system.

Raytel Security Systems Limited

The Digitac® K50 Access Control System



Installation and User Manual

Issue 2 – May 2001

IMPORTANT NOTE

Please keep this manual in a safe place with the premises Key holder. The Factory Master Code is inside.

Southern Office
Tel. 01268 775656 Fax. 01268 745001

Raytel Security Systems Ltd.

Northern Office
Tel. 0141 3324232 Fax. 0141 3326952

Factory Master Code

The **F**actory **M**aster **C**ode allows access to the programming modes of the K50. It is recommended that this manual be kept in a safe place for future reference.

Factory **M**aster **C**ode						

VERY IMPORTANT PLEASE KEEP SAFE

Unit Serial Number

If the **F**actory **M**aster **C**ode is reprogrammed the new **U**ser **M**aster **C**ode should be noted below.

User **M**aster **C**ode						

CE

Declaration of Conformity

We, Raytel Security Systems Ltd, declare that the equipment referred to within this document, conforms to the European Commission Electromagnetic Compatibility (EMC) Directive (Directive 89/336/EEC) when installed in strict accordance with the guidelines contained within this document.

Technical Support

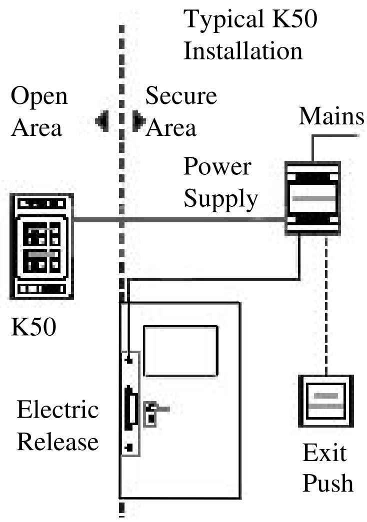
For all technical enquiries relating to this equipment, engineers are available at the following addresses:

Rayleigh Office		Glasgow Office	
Raytel House		Unit 3, Block 5	
Brook Road		Oakbank Industrial Estate	
Rayleigh		Garscube Road	
Essex		Glasgow	
SS6 7XH		G20 7LU	
Tel:	(01268) 749310	Tel	(0141) 3324232
Fax:	(01268) 745001	Fax	(0141) 3326952

Raytel Security reserves the right to change the content of this manual and product design without prior notice.

General Description

The K50 is a compact self-contained access control unit, (which may also be incorporated into audio and video entrance panels), designed for single door operation. Installation is quick and simple, with all programming done via the keypad.



Operation

A person wishing to gain access to the secure area will enter their user code via the keypad. If the correct code has been entered the lock output relay will operate for the pre-set time. If the code entered is incorrect, subsequent key presses will be ignored for six seconds, the last two seconds of which will be accompanied by a continuous error tone. This makes code breaking by trial and error more difficult.

Audible and visual indications

During normal operation of the K50 the following audible / visual responses will be encountered.

- Key press Confirmation.

  When a button is pressed, except the *, the K50 will respond with a short tone accompanied by the RED LED flashing on / off.

- Valid Code.

  When a valid user code is entered or the exit button is operated the output relay will operate for a pre-set time. A tone and illumination of the GREEN LED accompany this. This will continue while the output relay is in operation.

- Invalid Code

  If an invalid code is entered the K50 waits four seconds before sounding a low frequency tone; this is accompanied by the illumination of the RED LED. This error tone lasts for two seconds.

During program mode in addition to the Key press Confirmation and the indications as detailed in the individual programming tables the following audible / visual response may be encountered.

- Invalid Data.

  If invalid data is entered e.g. trying to add a user code that already exists the K50 will emit a low frequency tone; this is accompanied by the illumination of the RED LED. This error tone lasts for two seconds.

Additional Features

Code Entry Timer
A delay of more than four seconds between successive key presses will register as an incorrect code, subsequent key presses will be ignored for six seconds, the last two seconds of which will be accompanied by a continuous error tone.

Code Capacity
The K50 has the capacity to store up to fifty access codes of four to eight digits. The codes are stored in EPROM and therefore will be retained even if the power is removed.

Master Code
The Master code is used to access all the programming features. Each unit is factory programmed with its own unique master code. This code can be found on the inside cover of this manual. For additional security it is possible to reprogram the master code. The new code should be noted in the space provided inside the front cover of this manual, which should then be kept in a restricted, secure location.

Timed Code Operation
During normal operation, entering a valid code at any time will activate the door release. Optionally up to two sets of time zone markers may be programmed into the controller giving six access periods. This allows different codes to be assigned to different security levels. Please refer to the section on Access Levels and Time Zones starting on page 30 of this manual.

Tamper Switch
When the unit is installed the tamper switch lever is depressed by contact against the mounting surface. This makes a short circuit between the two tamper alarm cables (yellow and white cables in multicore). If the unit is removed, the tamper switch opens breaking the circuit between the two tamper alarm cables. This change in state may be used to operate a remote alarm if required.

Timed Lock Operation
The lock output relay operation time is adjustable between one and ninety nine seconds in one-second increments.

Exit Button
A normally open push button may be fitted to give lock operation from within the secure area.

Service Mode
During service mode operation, pressing any button on the keypad will operate the lock output relay for the pre-set lock time. This option is designed for use with fail secure releases.

Latch Mode

Latch mode is used to latch the lock output relay on. This can be done manually, using the master code to turn latch mode on or off or, programmed to automatically operate during certain access periods. This option is only recommended for use with fail safe door releases.

Self Test

The unit has a self-diagnostic mode. When entered it allows the controller and keypad functions to be tested with audible and visual confirmation of the results.

Master Reset

The master reset will clear all user codes and reset all functions to their factory defaults, including the factory user code.

Installation

Control Unit

The control unit should be securely attached to a wall adjacent to the entrance that it controls. Care should be taken to establish that the wall upon which the unit is to be mounted is of sufficient size and construction to meet the dimensions and weight of the control unit.

If any risk of flooding or free flowing water is apparent, the control unit should be fitted in a position that will provide adequate protection from the ingress of moisture.

The control unit should be mounted at such a height, approximately 1.3 meters, 1.5 meters for integrated audio / video panels, that it can be used without undue difficulty.

Sealing

Ensure the unit is adequately sealed, using a flexible sealing compound, to prevent moisture ingress. The unit should be sealed on the top, left and right edges, the bottom edge should be left unsealed to allow for drainage and ventilation. For flush installations, ensure that the front edge of the flush box is installed level with the mounting surface such that when the front panel is fitted, it rests against this edge without gaps.

Power Supply

The K50 requires a supply of 10 – 16V AC or 10 – 28V DC at 100mA. This should be located on an inside wall within the secure area and supplied with 240V 50Hz AC mains. If the K50 is to function during mains failure a 12V DC supply with a battery standby facility should be used.

Electric Release

This should be fitted according to the manufacturer’s instructions and comply with the relevant statutory regulations. Note that only 12V DC releases can be used if the unit is to operate during main failure. It is strongly recommended that a break glass unit be fitted on installations using fail safe releases. For installations using fail secure releases a mechanical override e.g. internal handle should be fitted.

Exit Button

This should have normally open contacts and be located within the secure area.

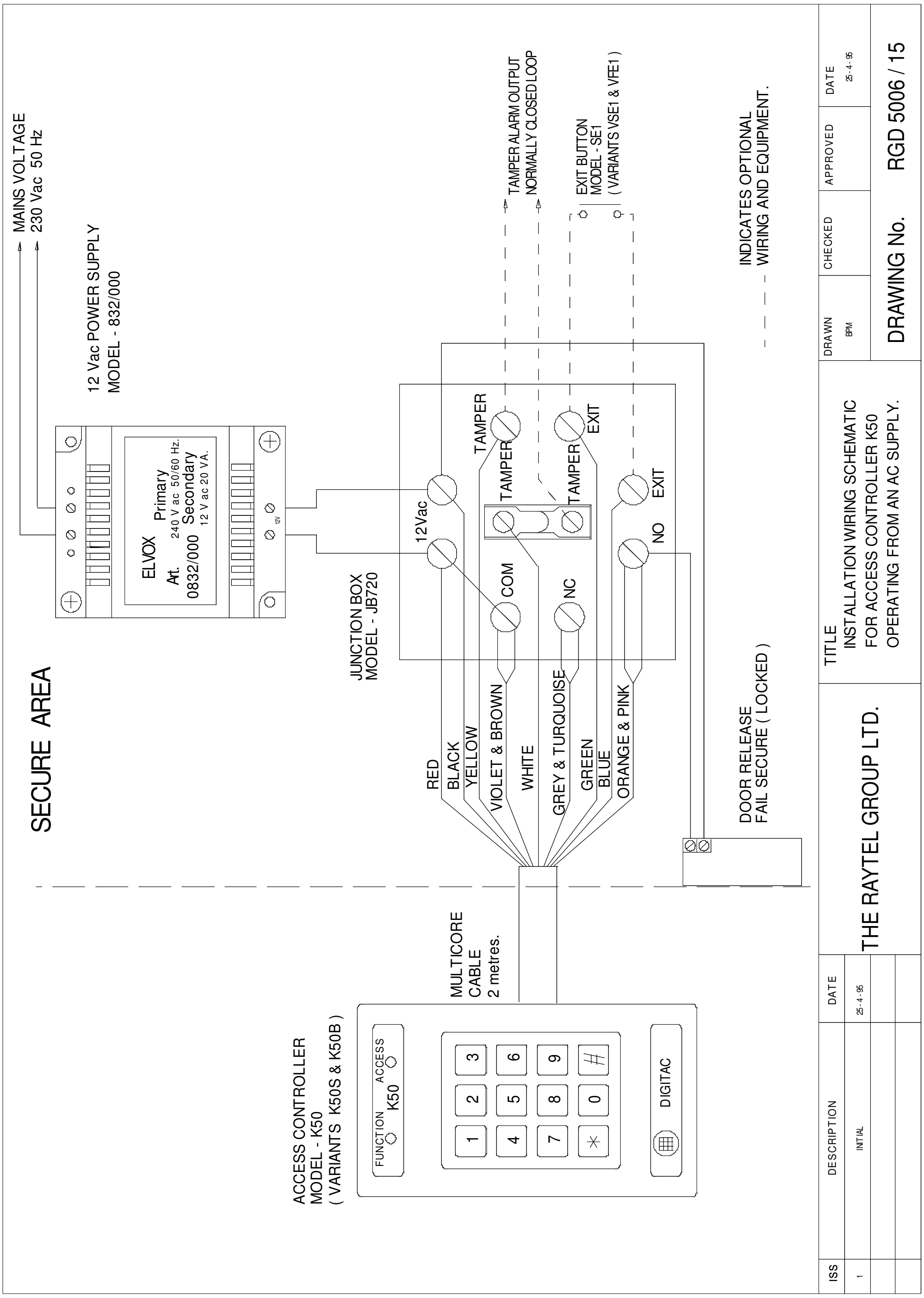
Cable Colour Code

The K50 comes supplied with two meters of twelve-core cable. The following chart gives details of core usage.

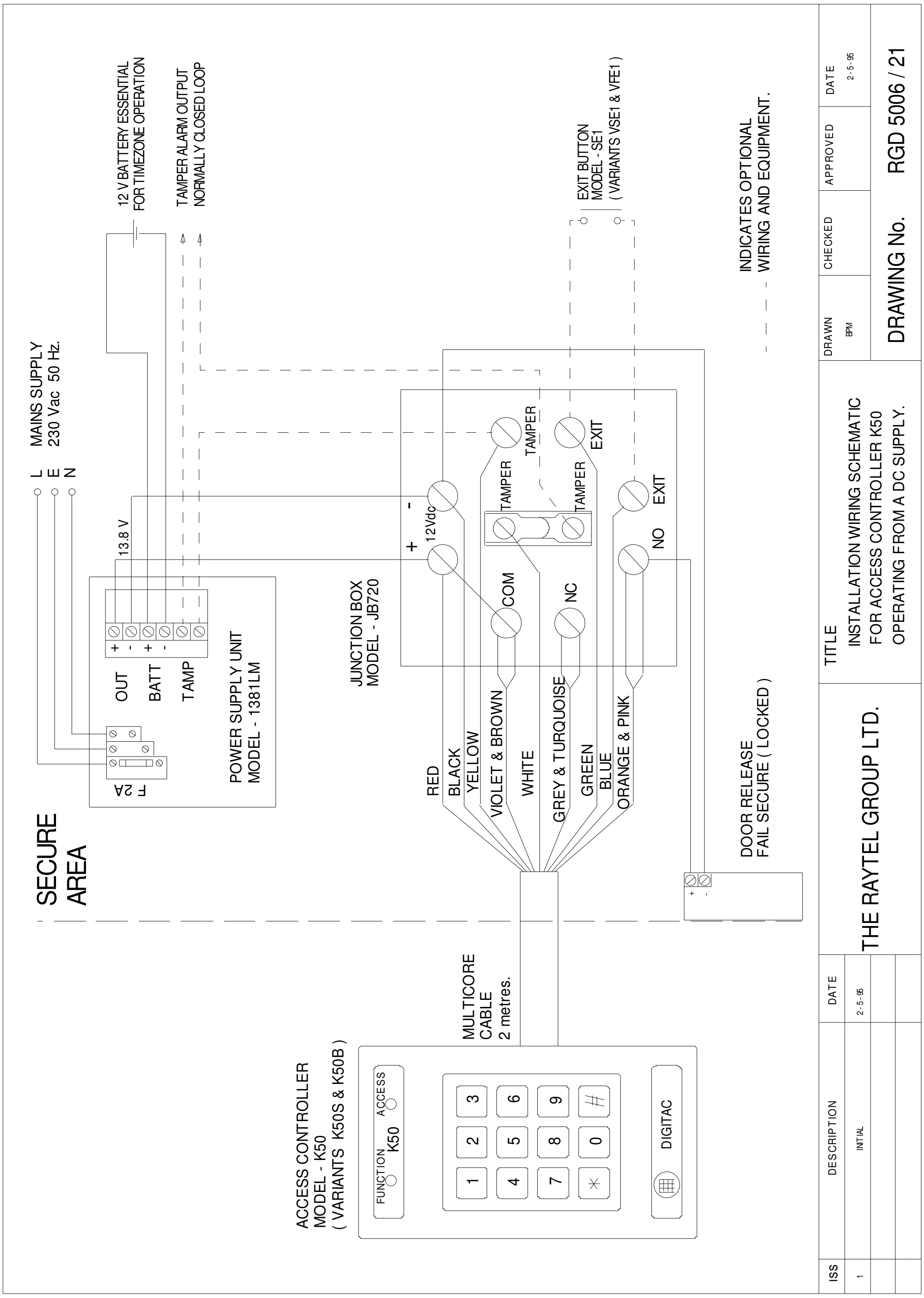
Cable Colour	Usage
Red	**Power input + ve**
Black	**Power Input - ve**
Yellow & White	**Tamper Switch Output**
Green & Blue	**Exit Button Input**
Violet & Brown	**Clean Contact Output (Common)**
Grey & Turquoise	**Clean Contact Output (Normally Closed)**
Orange & Pink	**Clean Contact Output (Normally Open)**

Wiring Schematics

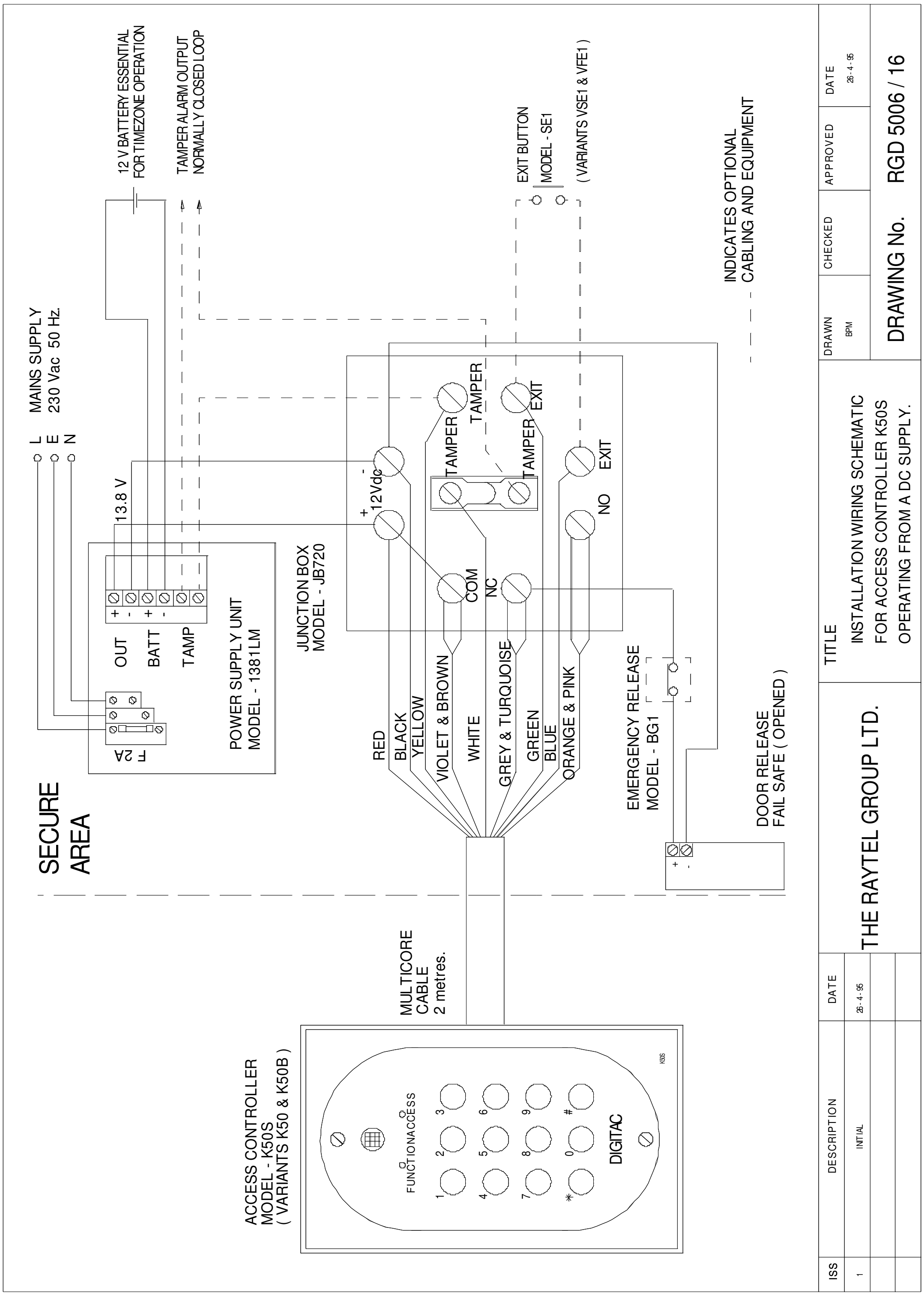
Wiring for K50 using an AC supply with an AC Fail Secure release



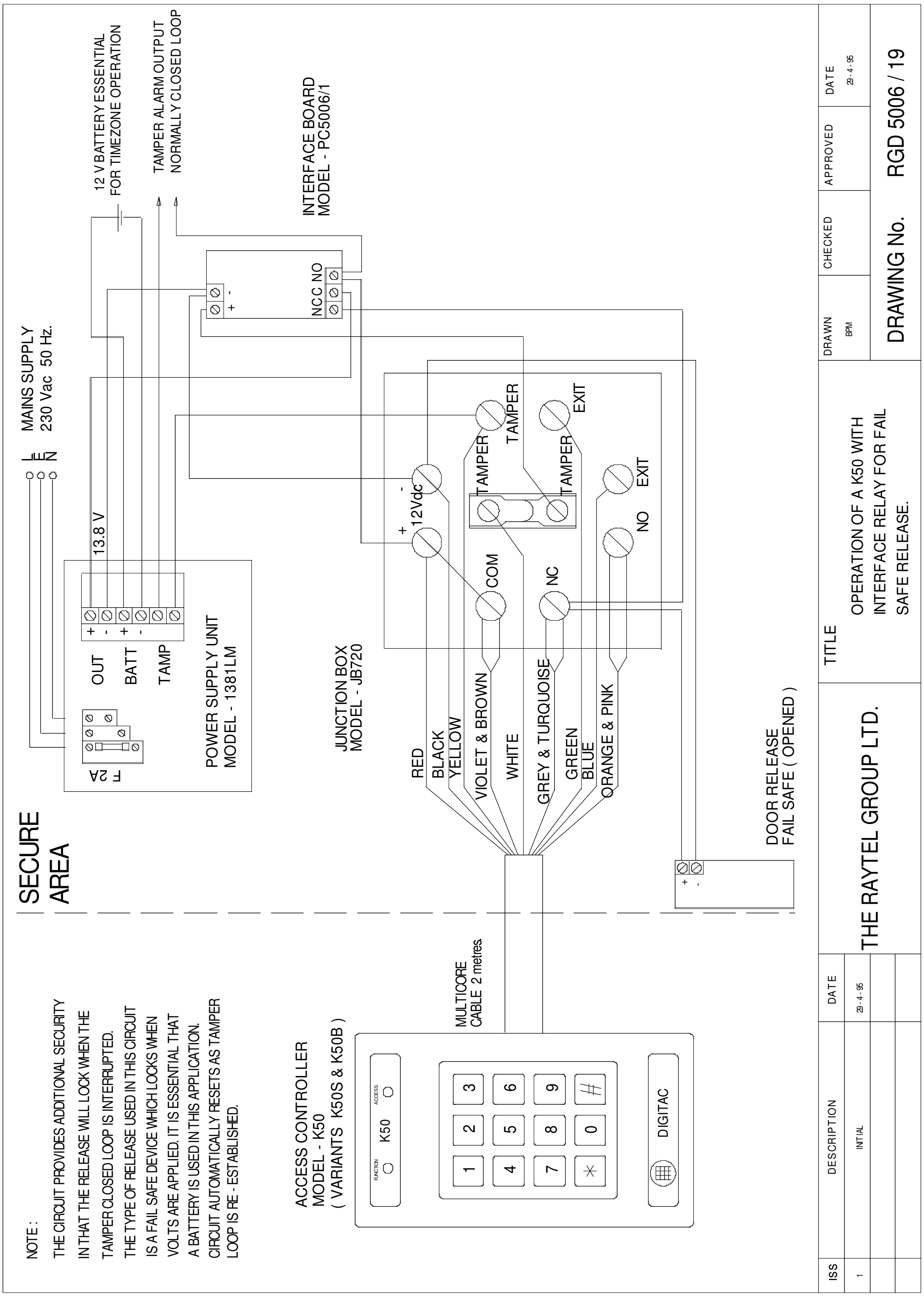
Wiring for K50 using a DC supply and DC Fail Secure release



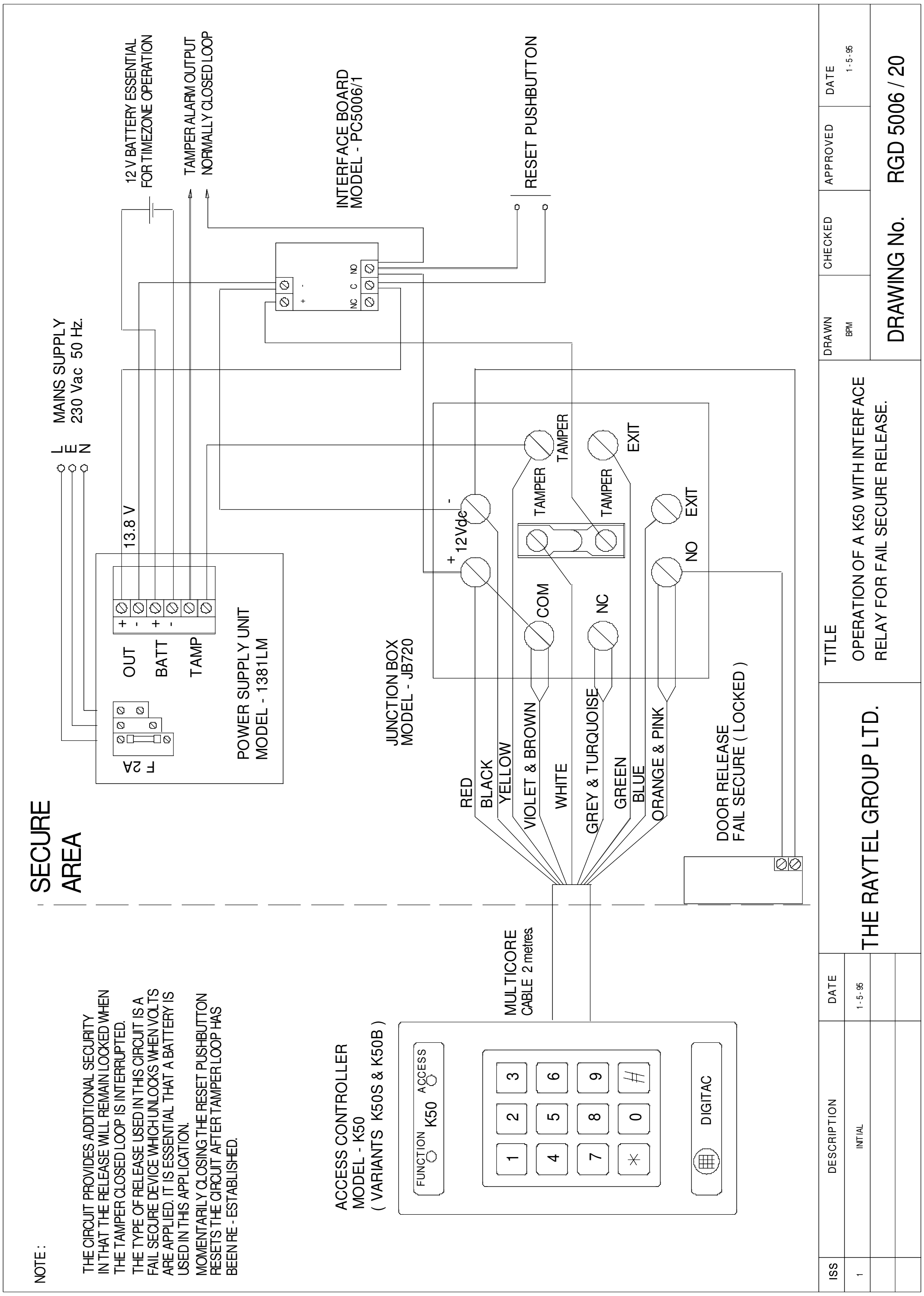
Wiring for K50 using a DC supply and DC Fail Safe release



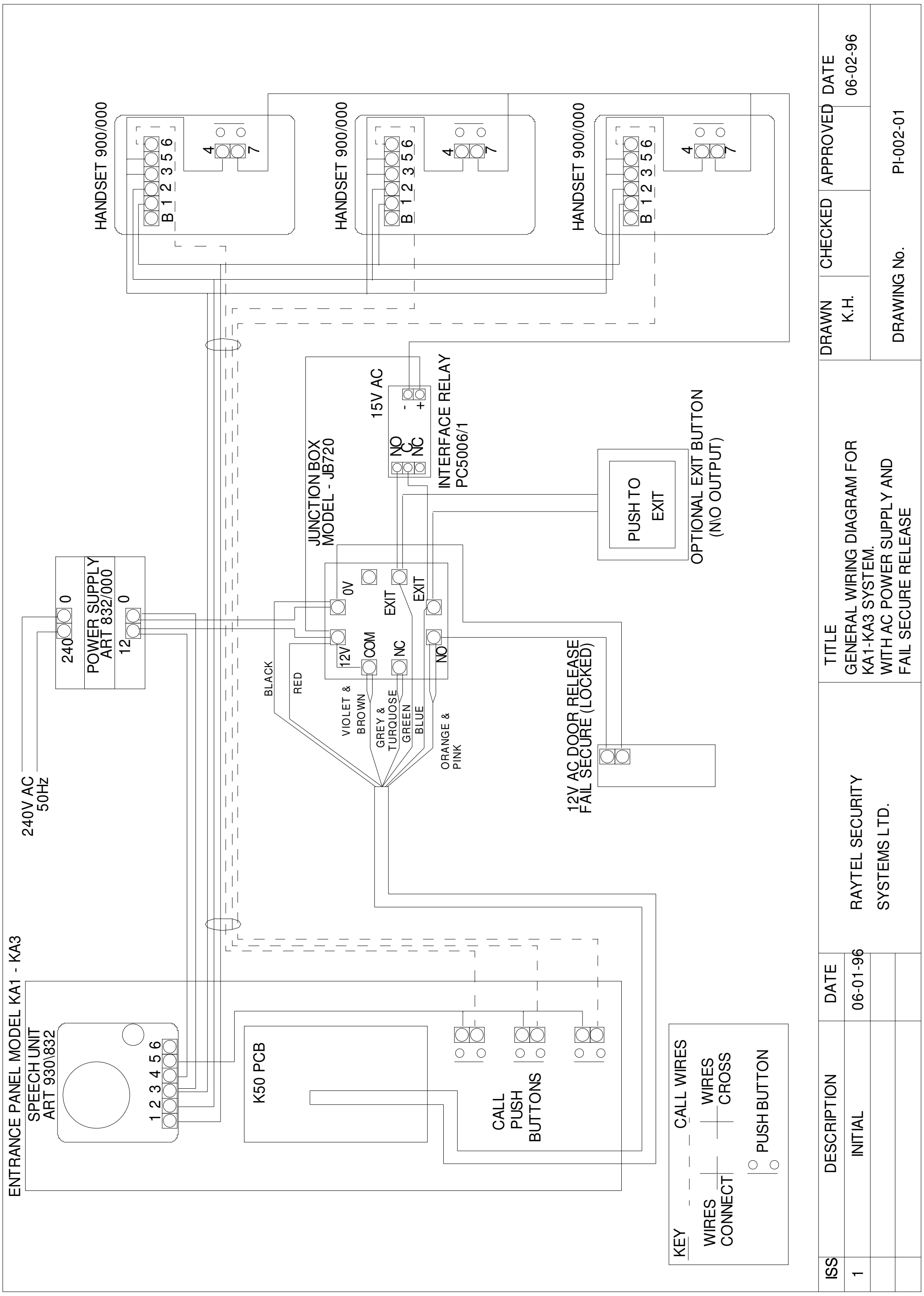
Wiring for K50 Tamper Relay and DC Fail Safe release



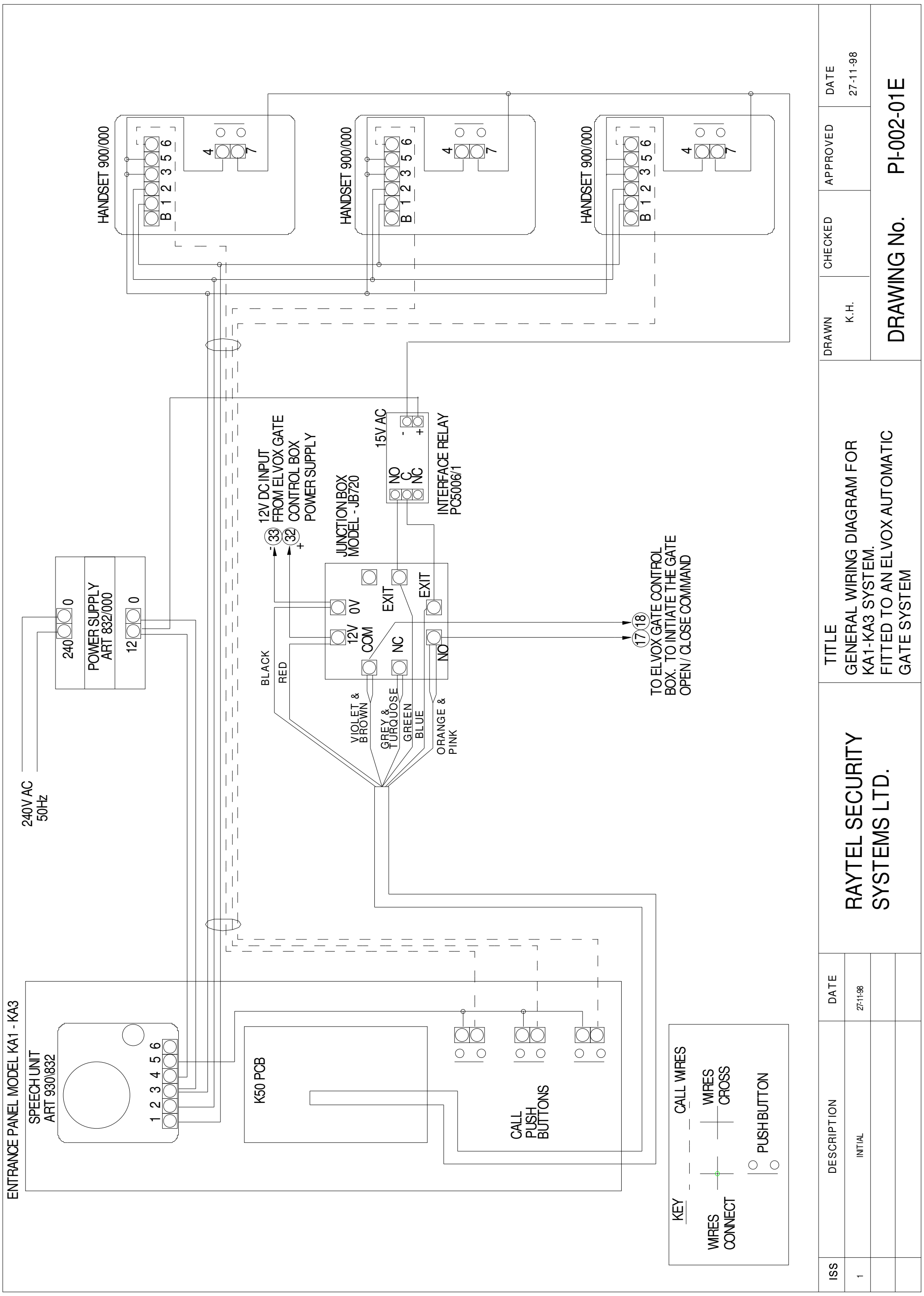
Wiring for K50 Tamper Relay and DC Fail Secure release



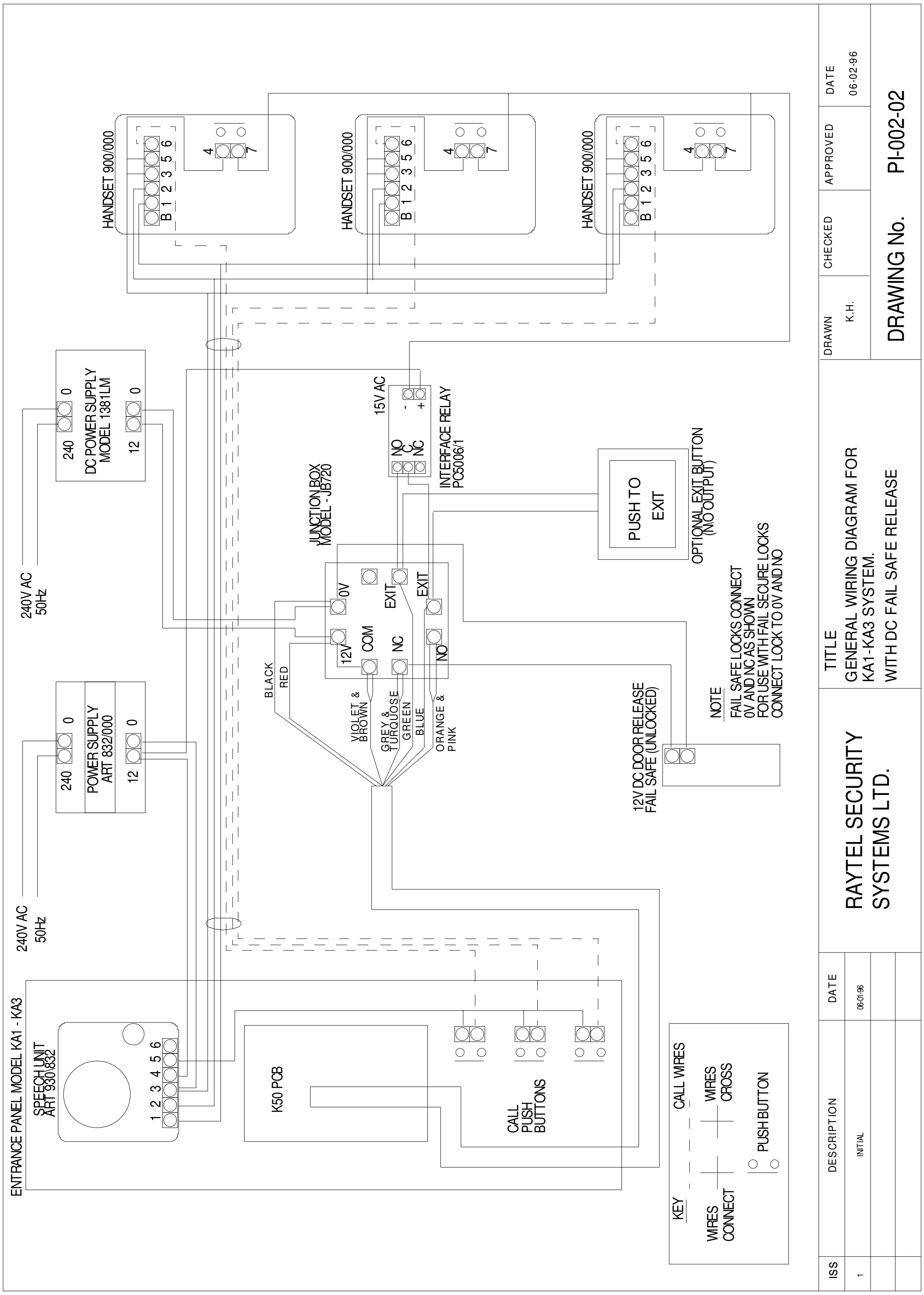
Wiring for KA1-KA3 and AC Fail Secure release



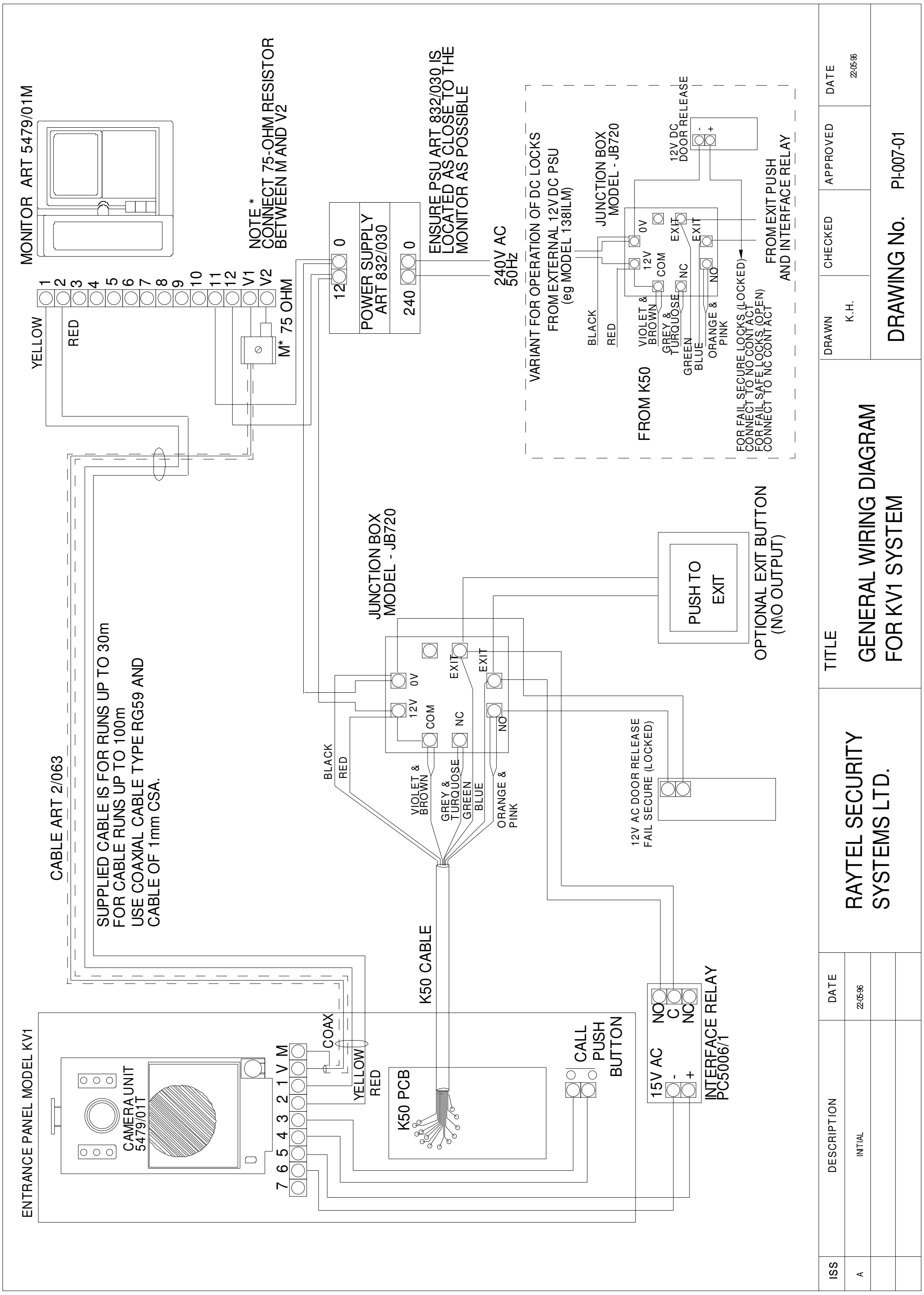
Wiring for KA1-KA3 and Elvox Gate System



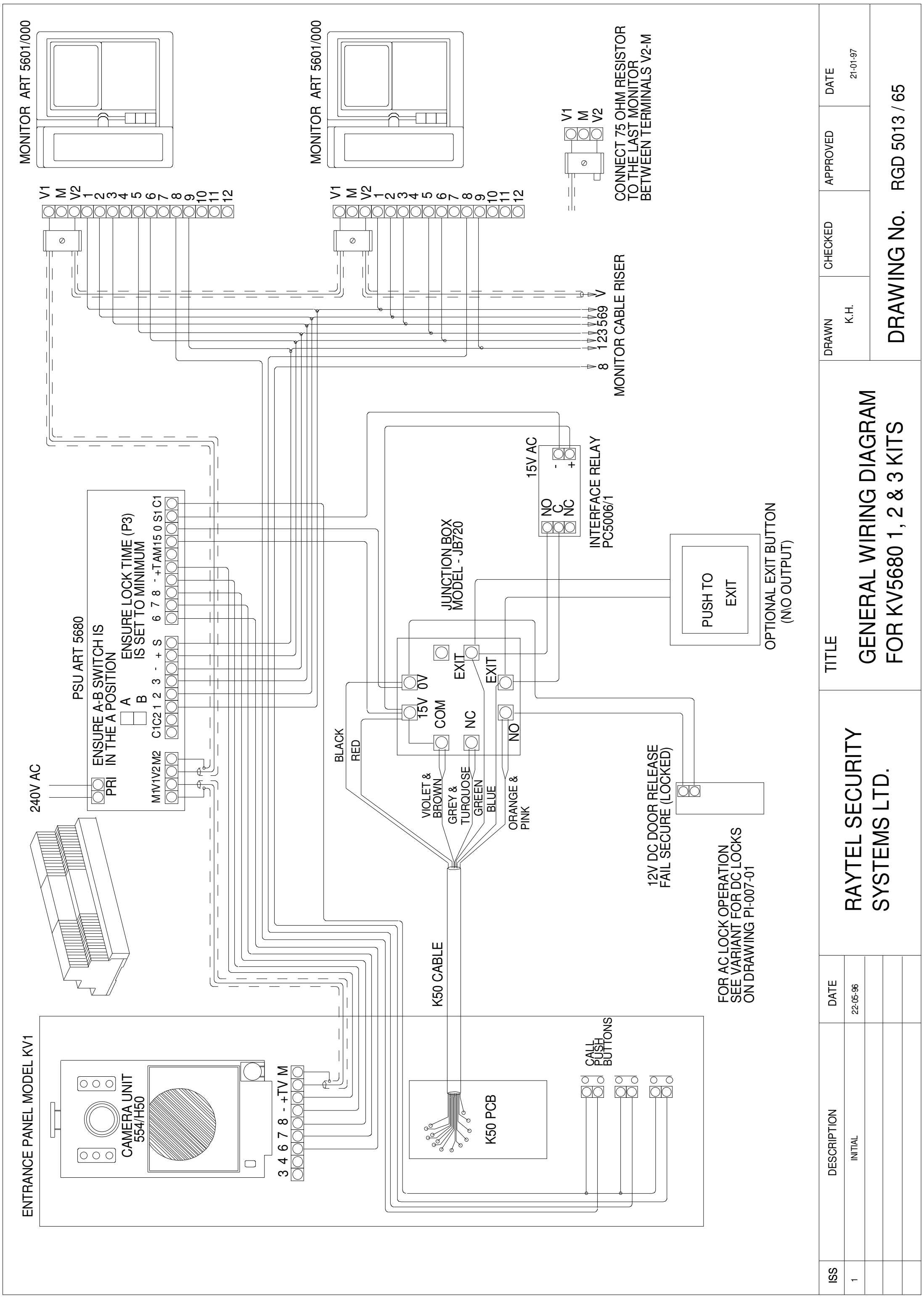
Wiring for KA1 – KA3 with DC Fail Safe release



Wiring for KV1 System and AC Fail Secure release



Wiring for KV1 – KV3 and AC Fail Secure release



Quick Programming Guide.

The K50 is programmed using the keyboard. Entering the six digit Master code accesses the programming mode. The following paragraphs cover initial programming for a basic access control system. To access the more advanced features of the K50 please refer to the Advanced Programming Guide section.

Programming a code

When the K50 is delivered there are no user codes in memory. The following instructions show how to enter a single user code for standard twenty-four hour operation.

Action	Indication	Notes
Enter six Digit Master Code		Found on the inside cover of this manual
Press the # key	Red LED lights accompanied by a long audible tone	Master code accepted
Press the # key	Red LED begins to flash every ½ second	Ready to accept a user code
Enter a user code		Code can be four to eight digits in length
Press the # key	Red LED begins to flash every second	The code has been accepted
Press the # key	Red LED steady, long audible tone, Red LED turns off	Exit function and return to normal operation

Ensure that there is less than four seconds delay between each key press. This prevents the Code Entry Timer from registering an invalid code.

Deleting a code

The following instructions show how to delete a single user code.

Action	Indication	Notes
Enter six Digit Master Code		Found on the inside cover of this manual
Press the # key	Red LED lights accompanied by a long audible tone	Master code accepted
Press 9 followed by the # key	Red LED begins to flash every ½ second	Delete function entered
Enter the user code to delete followed by the # key	Red LED begins to flash every second	If the code does not exist the K50 gives a two-second audible tone with steady red LED.
Press the # key	Two long audible tones Red LED off while tone sounds.	The code has been deleted. Note: To escape without deleting the code press the * key instead of the # key. The K50 will give a two-second audible tone with steady red LED.
Press the * key	Red LED steady, long audible tone, Red LED turns off	Exit function and return to normal operation

Ensure that there is less than four seconds delay between each key press. This prevents the Code Entry Timer from registering an invalid code.

Setting the Lock Relay Time

The lock relay can be set to operate from one to ninety nine seconds when a valid user code is entered or the exit push button is operated. The factory setting for the relay time is four seconds. The following instructions show how to adjust this time if required.

Action	Indication	Notes
Enter six Digit Master Code		Found on the inside cover of this manual
Press the # key	Red LED lights accompanied by a long audible tone	Master code accepted
Press 1 followed by the # key	Red LED begins to flash every ½ second	Set relay time function entered
Enter the required lock time (1 – 99 seconds) followed by the # key	Relay operates for the number of seconds entered accompanied by the Red LED and Green LED lit and an audible tone	Should the relay time require adjusting enter the new lock time before proceeding to the next step. This can be repeated as often as required.
Press the # key	Two long audible tones Red LED off while tone sounds.	The lock time has been set
Press the * key	Red LED steady, long audible tone, Red LED turns off	Exit function and return to normal operation

Ensure that there is less than four seconds delay between each key press. This prevents the Code Entry Timer from registering an invalid code.

Activating the K50 self test mode

The K50 can test the internal functions and the operation of each button on the keypad by entering the self-test mode.

Action	Indication	Notes
Turn off the power to the K50		
Hold down the # and * keys		
Return power to the K50	The Red and Green LED's will flash accompanied by an audible bleep.	Ensure the # and * keys remain held down
After the **fifth** bleep Release the # and * keys	The unit commences the self-test. See K50 test sequence for details of test results.	Releasing the keys before the fifth bleep exits to normal mode. Releasing the keys between the fifth and ninth bleep enters self-test mode. **WARNING:** If the keys are not released before the tenth bleep the K50 will enter Master Reset this will clear all the programmed codes. See the Advanced Programming section for details.

K50 Test sequence

After entering Self-test the K50 will run through the following sequence of tests.

1. Red LED flashes twice.
2. Green LED flashes twice.
3. Sounder bleeps twice.
4. Lock Relay operates twice.
5. The K50 tests internal functions. Should a fault be detected the test sequence will end and the Red and Green LED's will flash. If no faults are found the Red and Green LED will illuminate accompanied by a single audible tone.
6. The K50 is now ready to test the keypad. Press each keypad button in turn.
7. Press button 1 both LED's will flash once accompanied by an audible tone to indicate the button is functioning correctly.
8. Press button 2 both LED's will flash twice accompanied by an audible tone to indicate the button is functioning correctly.
9. Press buttons 3 to 9 both LED's will flash, for the number of times corresponding to the button pressed, accompanied by an audible tone to indicate the button is functioning correctly.
10. Press button 0 both LED's will flash ten times accompanied by an audible tone to indicate the button is functioning correctly.
11. Press button * both LED's will flash eleven times accompanied by an audible tone to indicate the button is functioning correctly.
12. Press the exit button both LED's will flash twelve times accompanied by an audible tone to indicate the button is functioning correctly.
13. Press button # both LED's will give three long flashes accompanied by an audible tone. The unit then returns to normal mode.

A self-test can be performed at any time without affecting any programmed settings. Care should be taken however to ensure a Master reset is not performed, as this would clear all pre programmed settings.

Advanced Programming Guide.

Performing a Master Reset

The Master Reset will perform the following tasks: -

Clear all user codes.
Reinstate the Factory master code.
Clear all time zone functions and settings
Reset sounder operation
Reset relay time to four seconds

Action	Indication	Notes
Turn off the power to the K50		
Hold down the # and * keys		
Return power to the K50	The Red and Green LED's will flash accompanied by an audible bleep.	Ensure the # and * keys remain held down
After the tenth bleep Release the # and * keys	The unit performs a Master Reset.	Releasing the keys before the fifth bleep exits to normal mode. Releasing the keys between the fifth and ninth bleep enters self-test mode. See previous section for details.

Setting the Lock Relay Time

The lock relay can be programmed to operate from one to ninety nine seconds when a valid user code is entered or the exit push button is operated.

When the K50 is supplied the lock relay time is set at four seconds.

To program the Lock Relay Time

Action	Indication	Notes
Enter six Digit Master Code		Found on the inside cover of this manual
Press the # key	Red LED lights accompanied by a long audible tone	Master code accepted
Press 1 followed by the # key	Red LED begins to flash every ½ second	Set relay time function entered
Enter the required lock time (1 – 99 seconds) followed by the # key	Relay operates for the number of seconds entered accompanied by the Red LED and Green LED lit and an audible tone	Should the relay time require adjusting enter the new lock time before proceeding to the next step. This can be repeated as often as required.
Press the # key	Two long audible tones Red LED off while tone sounds.	The lock time has been set
Press the * key	Red LED steady, long audible tone, Red LED turns off	Exit function and return to normal operation

Ensure that there is less than four seconds delay between each key press. This prevents the Code Entry Timer from registering an invalid code.

Installing User Codes

The K50 can be programmed with a maximum of fifty user codes of four to eight digits in length. These user codes can be programmed to operate in twenty four hour mode, assigned to one of the five timed access periods, service mode or latch mode.

User codes assigned to access periods 1 to 5 will not function until the clock and time periods have been set. (See Setting the clock, page 25, and Programming time zones, page 30, for details of how to do this.)
User codes assigned to access period 6 are used to enter Service Mode. User codes assigned to access period 7 are used to enter Latch Mode.

When the K50 is delivered there are no user codes in memory.

Note: If the first four digits of the code being entered is the same as an existing code then the new code will overwrite the existing code.

To Install Codes

Action	Indication	Notes
Enter six Digit Master Code		Found on the inside cover of this manual
Press the # key	Red LED lights accompanied by a long audible tone	Master code accepted
Press 2 followed by the # key	Red LED begins to flash every ½ second	Ready to install code
Enter the User Code		Code can be four to eight digits in length
Press the # key	Red LED flashes every second	The code has been accepted
Press the # key for 24 hour operation **Or** For Timed operation press key 1-7 followed by the # key	Red LED flashes twice accompanied by a long audible tone	1 to 5 are timed access periods See Programming time zones, page 30, for details. 6 is service mode, see page 26 for details of use. 7 is latch mode, see page 27 for details of use.
To add additional codes repeat instructions from highlighted section inclusive. **OR** Press the * key to exit programming mode.	Red LED steady, long audible tone, Red LED turns off	Exit function and return to normal operation

Ensure that there is less than four seconds delay between each key press. This prevents the Code Entry Timer from registering an invalid code.

Setting the Clock

The clock must be set to enable the time zone facility. (See Programming time zones, page 30 and Installing a user code, page 24 for details of how to set time zones and assign user codes.)

When the K50 is delivered the clock is disabled (set to 00hr 00min). After programming, should it be desirable, the clock can be disabled by setting the clock time to 00hr 00min, this has the effect of stopping the clock and disabling all time zone operations.

Note: The K50 clock is not battery backed. If time zone operation is to be maintained in the event of mains failure a 12V DC supply with a battery standby facility should be used.

If a power failure occurs after the clock has been set, when the power is restored the K50 will bleep three times to indicate the time may require resetting. This will be repeated every minute until the time is reprogrammed or the clock function is disabled by setting the clock time to 00hr 00min.

To Set the Time

Action	Indication	Notes
Enter six Digit Master Code		Found on the inside cover of this manual
Press the # key	Red LED lights accompanied by a long audible tone	Master code accepted
Press 3 followed by the # key	Red LED begins to flash every ½ second	Ready to Set the time
Enter the correct time		Time is to be entered using 24hr format. E.g. 9.30 AM would be entered 0930 while 9.30 PM would be entered 2130.
Press the # key	Red LED flashes every second	The time has been accepted
Press the # key	Red LED flashes twice accompanied by a long audible tone	The time has been set
Press the * key	Red LED steady, long audible tone, Red LED turns off	Exit function and return to normal operation

Ensure that there is less than four seconds delay between each key press. This prevents the Code Entry Timer from registering an invalid code.

Setting Service Mode

When the K50 is in service mode, pressing any button on the keypad will operate the lock output relay for the pre-set lock time. Service mode can be activated by entering a user code that has been assigned to access period 6 (see Installing a User Code, page 24), manually entered or set to operate automatically by allocating to an access period.

When the K50 is delivered, service mode is disabled.
Note: Service mode and Latch mode cannot be programmed to the same access period at the same time. When Service or Latch mode is assigned to an access period it overwrites any previously installed mode.

To Enter Service Mode Manually

Action	Indication	Notes
Enter six Digit Master Code		Found on the inside cover of this manual
Press the # key	Red LED lights accompanied by a long audible tone	Master code accepted
Press 4 followed by the # key	Red LED begins to flash every ½ second	Ready to enter service mode
Press the # key	Red LED flashes off twice accompanied by two long tones and green LED turns on for one second.	The K50 exits programming mode and enters Service Mode.

To exit Service mode

Press and hold the * and # keys together, the red LED will flash accompanied by a short tone, the relay will operate for the pre-set time. The keys should not be released until the relay time ends. **Note:** This will disable all programmed timed service operations and therefore should not be used to reset a timed operation.

To Set Service Mode for timed operation

Action	Indication	Notes
Enter six Digit Master Code		Found on the inside cover of this manual
Press the # key	Red LED lights accompanied by a long audible tone	Master code accepted
Press 4 followed by the # key	Red LED begins to flash every ½ second	Ready to enter service mode
Enter the access period number (0 – 5) followed by the # key	Red LED flashes every second	Service mode has been allocated. **Note**: access period 0 is used to disable all programmed timed service operations
Press the # key	Red LED flashes twice accompanied by a long audible tone	Service mode has been set
Press the * key	Red LED steady, long audible tone, Red LED turns off	Exit function and return to normal operation

Ensure that there is less than four seconds delay between each key press. This prevents the Code Entry Timer from registering an invalid code.

Setting Latch Mode

Latch mode is used to latch the lock output relay on. Latch mode can be activated by entering a user code that has been assigned to access period 7 (see Installing a User Code, page 24), manually entered or set to operate automatically by allocating to an access period.

When the K50 is delivered latch mode is disabled.
Note[1]: The exit push button is disabled during latch mode operation.
Note[2]: Latch mode and Service mode cannot be programmed to the same access period at the same time. When Latch or Service mode is assigned to an access period it overwrites any previously installed mode.

To Enter Latch Mode Manually

Action	Indication	Notes
Enter six Digit Master Code		Found on the inside cover of this manual
Press the # key	Red LED lights accompanied by a long audible tone	Master code accepted
Press 5 followed by the # key	Red LED begins to flash every ½ second	Ready to enter latch mode
Press the # key	Red LED flashes off twice with two long tones and the green LED turns on during relay operation.	The K50 exits programming mode and enters latch Mode.
Press the * key	Red LED steady, long audible tone, Red LED turns off	Exit function and return to normal operation

To exit Latch mode

Press the # key or enter a valid user code.
Note: Using the # key to exit will disable all programmed timed latch operations and therefore should not be used to reset a timed operation. When a user code is used the sounder and green LED will operate for the pre-set relay time before exiting.

To Set Latch Mode for timed operation

Action	Indication	Notes
Enter six Digit Master Code		Found on the inside cover of this manual
Press the # key	Red LED lights accompanied by a long audible tone	Master code accepted
Press 5 followed by the # key	Red LED begins to flash every ½ second	Ready to enter latch mode
Enter the access period number (0 – 5) followed by the # key	Red LED flashes every second	Latch mode has been set. **Note**: access period 0 is used to disable all programmed timed latch operations
Press the # key	Red LED flashes twice accompanied by a long audible tone	Latch mode has been set
Press the * key	Red LED steady, long audible tone, Red LED turns off	Exit function and return to normal operation

Ensure that there is less than four seconds delay between each key press. This prevents the Code Entry Timer from registering an invalid code.

Setting Sounder operation

The Sounder is used to give audible indication of key presses and lock relay activation. Should it be required the sounder can be disabled, or, for systems incorporating a long relay activation, the sounder can be programmed with a reduced **ON** time.

When the K50 is delivered the sounder time will equal the relay time and will bleep with each key press.

The sounder can be programmed to operate for 1 to 99 seconds during relay operation. **Note:** The sounder cannot be programmed to operate for longer than the relay time.

To Mute / Set Sounder

Action	Indication	Notes
Enter six Digit Master Code		Found on the inside cover of this manual
Press the # key	Red LED lights accompanied by a long audible tone	Master code accepted
Press 6 followed by the # key	Red LED begins to flash every ½ second	Ready to mute / set sounder
Press the # key to Mute sounder **OR** The number of seconds required (1 – 99) followed by the # key	Red LED flashes every second	The setting has been accepted
Press the # key	Red LED flashes twice accompanied by a long audible tone	The time has been set
Press the * key	Red LED steady, long audible tone, Red LED turns off	Exit function and return to normal operation

Ensure that there is less than four seconds delay between each key press. This prevents the Code Entry Timer from registering an invalid code.

Code Capacity Check

This function is used to check the number of User Codes programmed into the K50. When initiated the K50 will give a short audible tone for each User Code programmed.

Code Capacity Check

Action	Indication	Notes
Enter six Digit Master Code		Found on the inside cover of this manual
Press the # key	Red LED lights accompanied by a long audible tone	Master code accepted
Press 7 followed by the # key	Red LED begins to flash every ½ second	Code capacity check entered
Press the # key when ready to count.	Red LED flashes accompanied by a short tone for each User Code programmed in the K50.	Each tone indicates one programmed code.
	Red LED flashes twice accompanied by a long audible tone	Indicates that no more user codes remain to be counted.
Press the * key	Red LED steady, long audible tone, Red LED turns off	Exit function and return to normal operation

Ensure that there is less than four seconds delay between each key press. This prevents the Code Entry Timer from registering an invalid code.

Access Levels and Time Zones

Up to two sets of time zone markers (Start1, End1 – Start2, End2) may be programmed into the controller to give a maximum of six separate access levels covering six specific time zones during a 24 hour period. This allows different codes to be assigned to any one of the six time zones. The method for assigning access levels to codes can be found under "Installing User Codes" on page 24.
The following table shows the way in which the time zone markers are used to create the six different access levels.

00.00 hrs Start1 End1 Start2 End2 24.00 hrs

Access Level 0	No markers Default Setting	Access Zone 0 Active, Unlimited Access				
Level 1	Markers Start1 – End1		Access Zone 1 active			
Level 2		Access Zone 2 active		Access Zone 2 active		
Level 3	Markers Start2 – End2				Access Zone 3 active	
Level 4		Access Zone 4 active				Access Zone 4 active
Level 5	Markers Start1 – End2		Access Zone 5 active			

Level 0 does not require any time zone markers to be set and is the default setting for all codes. Codes assigned to this level will have unlimited access during the 24 hour period. (Zone 0).

Level 1 is the time zone commencing Start1 and ending with End1, any codes assigned to level 1 will only have access during this period. (Zone 1).

Level 2 is the time zone commencing End1 and ending with Start1, any codes assigned to level 2 will only have access during this period. (Zone 2).

Level 3 is the time zone commencing Start2 and ending with End2, any codes assigned to level 3 will only have access during this period. (Zone 3).

Level 4 is the time zone commencing End2 and ending with Start2, any codes assigned to level 4 will only have access during this period. (Zone 4).

Level 5 is the time zone commencing Start1 and ending with End2, any codes assigned to level 5 will only have access during this period. (Zone 5).

It should be noted that once time zone markers have been set for one level, they remain fixed in those positions for the other levels.

For user codes assigned to access periods to operate correctly the unit clock must be set. Refer to setting the clock, page 25 for details on setting the correct time. By setting time zone markers Start1 and End1, access levels 1 and 2 are available for use. Access levels 3, 4 and 5 will not be available until time zone markers Start2 and End2 have been programmed.

Programming Time Zone markers

Action	**Indication**	**Notes**
Enter six Digit Master Code		Found on the inside cover of this manual
Press the # key	Red LED lights accompanied by a long audible tone	Master code accepted
Press 8 followed by the # key	Red LED begins to flash every ½ second	Ready to program time zones
Enter time zone 1 start time (Start1) in 24 hour format followed by the # key. (E.g. 0900# for 9 AM)	Red LED flashes every second	Start time has been accepted
Enter time zone 1 stop time (End1) in 24 hour format followed by the # key. (E.g. 1130# for 11.30 AM)	Red LED flashes every 1½ second	Stop time has been accepted
Skip the next two operations if time zone 2 is not required		
Enter time zone 2 start time (Start2) in 24 hour format followed by the # key. (E.g. 1600# for 4.00 PM)	Red LED flashes every 2 seconds	Start time has been accepted
Enter time zone 2 stop time (End2) in 24 hour format followed by the # key. (E.g. 1830# for 6.30 PM)	Red LED flashes every 2½ seconds	Stop time has been accepted
Press the # key	Red LED flashes twice accompanied by a long audible tone	The time zones have been set
Press the * key	Red LED steady, long audible tone, Red LED turns off	Exit function and return to normal operation

Ensure that there is less than four seconds delay between each key press. This prevents the Code Entry Timer from registering an invalid code.

To deactivate time zones programme the start and stop times to 0000.

Deleting a single user code

The following instructions show how to delete a single user code.

Note: The User Master Code cannot be deleted with this function.

Action	Indication	Notes
Enter six Digit Master Code		Found on the inside cover of this manual
Press the # key	Red LED lights accompanied by a long audible tone	Master code accepted
Press 9 followed by the # key	Red LED begins to flash every ½ second	Delete function entered
Enter the user code to delete followed by the # key	Red LED begins to flash every second	If the code does not exist the K50 gives a two-second audible tone with steady red LED.
Press the # key	Two long audible tones Red LED off while tone sounds.	The code has been deleted. Note: To escape without deleting the code press the * key instead of the # key. The K50 will give a two-second audible tone with steady red LED.
Press the * key	Red LED steady, long audible tone, Red LED turns off	Exit function and return to normal operation

Ensure that there is less than four seconds delay between each key press. This prevents the Code Entry Timer from registering an invalid code.

Deleting ALL user codes

This function will delete all user codes. All other programmed parameters and the Master Code will not be affected.

Action	Indication	Notes
Enter six Digit Master Code		Found on the inside cover of this manual
Press the # key	Red LED lights accompanied by a long audible tone	Master code accepted
Press 10 followed by the # key	Red LED begins to flash every ½ second	Delete function entered
Press the # key	Two long audible tones Red LED off while tone sounds.	Warning: This will delete all programmed user codes. Note: To escape without deleting the code press the * key instead of the # key. The K50 will give a two-second audible tone with steady red LED.
Press the * key	Red LED steady, long audible tone, Red LED turns off	Exit function and return to normal operation

Ensure that there is less than four seconds delay between each key press. This prevents the Code Entry Timer from registering an invalid code.

Changing the Master Code

For increased security the Factory Master Code can be reprogrammed to a User Master Code. The User Master Code can be reprogrammed as often as required.

Note: A User Master Code cannot be programmed if its first four digits are the same as a current User Code, this also means that a user code cannot be programmed if its first four digits are the same as the current Master Code.
Please note there is no function 11.

Action	Indication	Notes
Enter six Digit Master Code		Found on the inside cover of this manual
Press the # key	Red LED lights accompanied by a long audible tone	Master code accepted
Press 12 followed by the # key	Red LED begins to flash every ½ second	Ready to reprogram the Master Code
Enter the 6 digit Master code followed by the # key.	Red LED begins to flash every second	The new Master Code has been accepted.
Press the # key	Two long audible tones Red LED off while tone sounds.	The new Master Code has been programmed.
Press the * key	Red LED steady, long audible tone, Red LED turns off	Exit function and return to normal operation

Ensure that there is less than four seconds delay between each key press. This prevents the Code Entry Timer from registering an invalid code.

Technical Information

Power Supply	-	10 – 16V AC, 10 – 28V DC.
Power Consumption	-	9 mA quiescent, 80 mA during relay operation.
Lock output	-	Volt free changeover. Contact rating 50V AC / DC 1.5A inductive.
Tamper Switch	-	Volt free normally open contact.
Exit Button	-	Requires normally open switch input.
Code Memory	-	Permanent retention in E^2PROM.
Clock Memory	-	There is no internal battery. The clock will require resetting if power is lost.
Power Failure Indication	-	If the clock has been programmed the K50 will emit three audible bleeps every minute after power is restored. To turn this off set the correct time or disable the clock.
Connections	-	Unit is supplied with two metres of twelve core cable.
Visual Indications	-	Red LED to indicate keypad entry and programming status. Green LED to indicate relay operation.
Dust/Water protection	-	IP54.

Dimensions (mm)

Model	H	W	D	Main Material
K50	136	80	32	ABS housing UL 94-5v
K50 S	146	86	-	Stainless Steel grade BS1449/304
K50 B	146	86	-	Polished Brass grade BS2870/cz120
K50 C	146	86	30	Stainless Steel grade BS1449/304
K50CB	146	86	30	Polished Brass grade BS2870/cz120
FB146 (for K50S/B)	135	75	35	Zinc Plated Steel, Flush box
SB146/1 (for K50S/B)	151	92	32	Coated Steel / Paint finish, Surface box
KA series (Audio entry panel with keypad)				Please contact the office for details
KV series (Video entry panel with keypad)				Please contact the office for details

Programming Summary Table

	Steps 1	2	3	4	5	6	7	8
Description	**Master code**	**Function No.**	**1st Data**	**2nd Data**	**3rd Data**	**4th Data**	**Confirm**	**Escape**
Enter Program mode	Master code #							
Single User Code	Master code #	#	User Code #				#	AUTO
Relay time	Master code #	1#	Time(seconds)#				#	*
Install Codes (24 hour)	Master code #	2#	User Code #				#	*
Install Codes (with time zone)	Master code #	2#	User Code #	Time Zone #				*
Set Clock	Master code #	3#	Time (24Hr) #				#	*
Services Mode	Master code #	4#	Time Zone #				#	*
Latch Mode	Master code #	5#	Time Zone #				#	*
Sounder Time	Master code #	6#	Time(seconds)#				#	*
Code Capacity	Master code #	7#					#	*
Time Settings (T1 and T2)	Master code #	8#	Time 1 #	Time 2 #			#	*
Time Settings (T1 to T4)	Master code #	8#	Time 1 #	Time 2 #	Time 3 #	Time 4 #	#	*
Delete Codes	Master code #	9#	Code to Delete #				#	*
Delete All User Codes	Master code #	10#					#	*
Reprogram Master code	Current Master Code #	12#	New 6 digit Master Code #				#	*
Escape Program Mode								*